SCIENCE AND ART MUSEUM,
DUBLIN.

GUIDE TO THE COLLECTION OF IRISH ANTIQUITIES.

PART I.—THE STONE AGE.

Lt.-Colonel G. T. PLUNKETT, C.B., Director.

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INDEX TO CASES.

Each Table Case bears on one end a number, so that by this Index the visitor can find the page of the guide on which the contents of the case are referred to.

	Page		Page
I.	9	VI.	9
II.	12	VII.	8
III.	13	VIII.	13
IV.	13	IX.	13
V.	13		

Wall cases X., XI., XII., and XIII., are described on page 13.

Wall cases, forming a separate series, No. I., II., and III., on page 8, and the pyramidal case near the centre of the room containing skulls, &c., on page 15.

INDEX TO OBJECTS AND TO TERMS USED.

Alignments, . . 14
Adzes, . . . 10, 11
Arrowheads, . . 10, 12
Awls, . . . 10, 11
Axeheads, . 10, 11, 13
Barrows, . . 14, 15
Borers, . . . 10
Bulb of Percussion, . 11
Celts, . . . 11
Chisels, . . 10, 11, 13
Cists, . . . 14, 15
Cone of Percussion, . 11
Cromlechs, . . 14
Deers' Antler Tools, 9, 10
Dolmens, . . 14
Fabricators, . . 11
Flint Cores, . . 9, 10
Flint Flakes, . 8, 9, 10, 11
Gouges, . . . 10, 11
Grain Rubbers, . 9, 10
Grindstones, . . 10
Hafts and Handles, 10, 11, 12, 13
Hammer-heads, . 10
Hammer-stones, . 9
Hoes, . . . 10
Knives, . . . 9, 10, 12
Lake Dwellings, . 14
Menhirs, . . 14
Mortars, . . 10
Needles, . . 10
Pestles, . . . 10
Pickaxes, . . 10, 13
Piercers, . . 9
Pottery, . . 9
Rounded Pebbles, . 9
Scrapers, . . . 9, 10, 11
Spearheads, . . 9, 10, 11
Whetstones, . . 10
Whorls, . . . 10

THE STONE AGE.

When we find the ruins of an abandoned town or other remains of men's dwellings we can, by noticing the nature of the buildings and of the other objects discovered, form an idea to what nation the ancient inhabitants belonged, and to what stage of civilization they had attained. If it be the site of a city of such people as ancient Greeks, Romans or Egyptians, our discoveries are aided by what is recorded in histories and by inscriptions, but when we are dealing with the traces of men to whom the art of writing was unknown we have nothing to guide us, except the remains of their dwelling or burial places and of such weapons, tools, and ornaments as we may be able to find, but by careful examination of such things, and diligent comparison of the objects found in different places, archæologists have been able to glean much information concerning the life of man on the earth long before writing was invented.

We have no remains of the habitations of the earliest races of men, they probably lived in caves or in huts made with branches of trees in the shape of a tent, of which after a few years nothing would remain, so we can find only some of their tools and weapons.

One great distinction between man and the inferior animals, is, that he not only uses the hands which are part of his natural body, but makes for himself tools and weapons which increase indefinitely the power of his hands, and enable him to do all kinds of work, and to subdue the powers of Nature. Even some of the higher species of apes use a branch as a stick or club, and throw cocoa-nuts or stones as missiles, and we may suppose the most primitive races of men to have had sufficient skill to take stones like flints broken with sharp edges, and to use them for fighting with, and for cutting branches off trees, or for killing and skinning an animal. It would require little more intelligence to break one stone with another, and to choose that which would give the sharpest and best shaped pieces, and it would be a very great step in advance when man learned to fix a sharp piece of flint into a wooden handle that it might be used like an axe.

Stone axes, arrow-heads, and other such things are still used by primitive peoples in some countries, and as similar weapons are also found buried or scattered on the ground in many parts of the world, it is evident that formerly their use was general in our own and other countries.

Flint, which readily flakes into slender sharp-edged pieces, was much sought after for knives and spear points. Men became very clever at chipping flint, and learned how to shape flakes of flint into special tools such as borers and scrapers, and to make beautifully formed arrow heads of different patterns, and flint arrow-heads were used long after men had learned to use metal for other purposes.

The times when men had only these stone implements are by Archæologists called the "Stone Age," and it is usual to divide this into the "Old Stone Age" or Palæolithic and the "New Stone Age" or Neolithic.

The men of the Palæolithic times lived in the Southern countries of Europe and in other parts of the world ; they inhabited the south of England, but did not get to Ireland ; they seem to have lived in caves or huts as mentioned above, and we find few relics of them except their flint implements. The commonest of these is tongue or pear shaped, one end left round to grasp in the hand and the other chipped to a point or edge for cutting. Other implements found are egg-shaped in outline, but thin and flat with a sharp edge, scrapers made from large flakes chipped along one edge of one face, roughly worked disks with edges sharp, but the centre thick, and hammer stones. Such objects have been found in the gravels carried down by rivers, known as "River Drift," and flint implements of rather better manufacture have been found in many caves in France, England and Belgium. The tongue-shaped implement gradually became obsolete, and other tools were introduced, and the bones of animals and antlers of deer were also used in their manufacture. When these people lived in the caves there were many wild animals in Europe which have long disappeared as the Mammoth, Reindeer, Woolly Rhinoceros, Cave Bear and Hyæna.

From the few skulls and other portions of skeletons which have been found, it is believed that the Palæolithic Men belonged to a low type with retreating foreheads and prominent brow ridges like the Australian natives, and they probably lived on fruits and nuts and on animals they could kill with clubs or stones.

The Cave-men of France were of a higher race than their predecessors, and they became skilful in working flints and in making spear heads and other things from bone and ivory ; They had great artistic skill, and carved dagger handles in the forms of animals, and made ivory figures of human beings, and engraved spirited representations of bison and other animals which show great intelligence and ability, but as the men of the Palæolithic period did not come into Ireland it is unnecessary to say more about them.

NEOLITHIC AGE.

In the next period—the "New Stone Age,"—there were men in Ireland as well as in England and Scotland and in all parts of Europe and as they were the direct ancestors of a great part of the present inhabitants and as implements made by the inhabitants of Ireland in those times are shown in the Museum, it is interesting to find out as much as possible concerning their customs and manner of living, and as their burial places are found in considerable numbers in many countries, it is easy to determine what kind of men they were.

It is believed that at the beginning of this Neolithic period, a race of men known as the Mediterranean Race lived in the southern countries of Europe, including the Spanish Peninsula, and that a branch of these were the original inhabitants of Ireland. They were rather short and slender, the head narrow, face long, nose rather broad, complexion dark ; a considerable proportion of the present inhabitants of Ireland as well as of Cornwall and Wales are recognised as descendants of this Mediterranean Race.

Northern Europe was peopled by what is called the Teutonic Race, characterised by tall stature, a narrow head, long face, narrow aquiline nose and fair complexion.

A third race, known as the Alpine or Keltic, were of medium height, broad and thick set, with broad head and face, large nose, sallow complexion ; they seem to have come into Central Europe from the East and are therefore called also the Central Race.

It is very uncertain how long ago the Neolithic men came into Europe and crossed to Ireland, some archæologists think eight thousand years ago and others say sixty thousand ; we will now see what knowledge can be obtained of their ways of living from the tools and weapons which they made, and many of which, being nearly all of stone, have lasted to the present time.

The examples of these tools and weapons which have been obtained for the museum are in the Irish Antiquities Division in Room II., on the Upper Floor, and it is well to begin with the cases by a window in a corner containing portions of a gravel bank cut out of the side of a railway cutting near Larne ; chipped flints were found in the sides of this railway cutting, several feet under the surface of the ground, which shows that they are of immense antiquity.

The small map on the wall shows the spit or tongue of land projecting into the sea near Larne and the railway cutting, and the cases against the wall in the corner show portions of the soil cut out of the side of this railway cutting.

Case I. is a section from the spot marked A on photograph No. 1, which is on the wall to the left and above the map. Case II. contains a section from the spots B and D on above photograph. Case III. contains a complete section from the spot shown in the photograph No. 2, to the right, taken from the same locality.

The ground here consists of layers of sand and gravel which have been deposited at various periods when this portion of the ground was under water, and they show that in those days men inhabited the country and made tools and weapons from flints. Taking the case marked III., at the bottom of the section is a portion of the boulder clay, which is a layer deposited before the times of which we are speaking. Above this is the first or lowest layer of sand and pebbles marked E, and in this it is easy to distinguish flat pieces of flint which have evidently been made by hand.

On turning to the table-case No. VII., which stands on the floor near it, there will be seen in the two trays marked E, a number of flakes which had been struck off from flints, and two cores or centre portions of the flints from which flakes had been struck off, all collected from this layer E. It is thus clearly proved that when the ground was much lower than it is at present, and this layer of sand and gravel E were being washed up upon the top of the boulder clay some primitive tribe of men was living near and came to this beach for the purpose of picking out likely looking flints, and striking off flakes for use as tools or weapons.

The ground seems then to have sunk in this locality, and another lot of gravel and sand was deposited to form the layer D, and again we find pieces of flint, showing that again men lived in this neighbourhood and worked at making stone implements. In the desk case, as before, in the tray marked D will be found flint flakes and the core from which flakes had been struck off which were found in this layer.

The ground seems to have again sunk, and another deposit was made, which is marked C, and so on with respect to the layers marked B, A2, and A1. In later times a change in the level of this part of the earth's surface has raised the whole of it high above the water.

As such movements of the earth's surface usually take place very slowly, it is evident that long ages have elapsed between the periods when the different tribes of primitive inhabitants came to this beach and worked the flints which are found in the different layers, and it is probable that an immense time elapsed between the period when the flakes in layer E were deposited and those in layer A 1. In the desk case VII. there are similar examples of the flakes and flint cores from the sections in cases marked I. and II.

In the middle of the room there is a table-case, marked 383, containing remains from a prehistoric settlement in Whitepark Bay, County Antrim.

On this coast there are low sandhills near the sea which are covered generally with coarse bent grass, and at a distance of a few inches, more or less, below the surface of the sand, over a great part of these hills, there is found a black layer varying in thickness from half an inch or less to two or three times as much. On examination this layer is found to consist chiefly of charcoal, being the remains of innumerable fires which were made by some primitive tribe who lived there, probably in rude huts, during the stone age, and with the remains of their fires are found flint and other implements, together with bones and horns of the animals which they ate.

The desk case No. VI., close by, contains a large number of these objects which were found during a three days search at this spot, and among these there are a considerable number of hammer stones, one end of each being worn by use. There are many flint flakes and cores from which flakes have been struck, rounded pebbles which may have been used in slings or for the weights of fishing nets, flakes shaped for use as scrapers for cleaning skins, a piercer and other tools made from deer horns and rude pottery, some of it plain and other pieces with a simple incised ornament; there are also, as above stated, the bones and horns of deer and of cattle and the remains of shell-fish.

At the end of the case is a grain rubber, which was found at the same place; it is the earliest of all implements for grinding corn, and was used before the invention of the quern. The grain was laid upon the large flat stone and rubbed backwards and forwards with the other till ground into meal. Other grain rubbers are under the wall cases.

In a frame beside the door near this are photographs to show the use of the grain rubber in ancient Egypt as represented in paintings on the tombs and the rubbers used in more modern times in Abyssinia and in India.

There may also be seen in the two desk cases which we have been examining a large quantity of flint flakes, knives, spear points, hammer stones, flint cores and scrapers from various coast sites in counties Antrim, Down and Londonderry.

On the other side of the room, in Case I., there is a collection of flint flakes and various implements made from them, collected chiefly in Counties Antrim, Derry and Down. The art of striking flakes from a flint was carried on till quite recent times for the manufacture of gun flints, and in the left-hand corner of this case there is an example of a flint core with flakes which have been struck from it, found at Brandon in Suffolk, and a label which explains how this flaking is done; below it there are flint cores from Stone Age period for purposes of comparison. Then there are flint flakes of different forms, some suitable for knives or spear points, others of which the edges have been worked over again. This secondary working was generally done by pressure as described on the opposite page, and by long practice and careful selection of flakes extraordinary proficiency was attained in this art during the Stone Age, as will be seen when we come to the arrow heads and other specialised examples.

Some implements are made from blocks or pebbles of stone, and other from flakes. Among those made from blocks of stone, are axe heads, adze heads, chisels, gouges and hammer heads. Among those made from flakes, are scrapers, borers and awls, knives, spear heads and arrow heads, and these were not usually ground or polished.

For the manufacture of these implements they had hammer stones, fabricators for chipping the edges of flakes, grind stones and whet stones; they also had sling stones, spindle whorls, corn rubbing stones, and, perhaps, before the introduction of metals stone pestles and mortars. They also had wooden clubs, bone needles and awls, chisels, and spear heads, and from the antlers of deer they made hammers, picks, axes and hoes.

The stone axe head was usually mounted by inserting it in a hole in the wooden shaft, and the stone blades of knives were often let into a long piece of wood with a groove in it, so that the back of the knife could be held in the hand. The smaller implements, such as arrow heads, were attached to the shafts by means of gum and lashing.

A few of the implements found in Ireland are made from various kinds of stone, but the great majority are made of flint which is very hard and can be broken so as to give a very sharp edge.

Large implements, such as the tongue-shaped described above as made in the Early Stone Age or the roughest kind of axe-heads, shown in case IV., were made by taking a block of flint and with a hammer stone chipping off pieces till it was reduced to the required form. Other implements, such as scrapers, knives, and arrow-heads, were made from flakes split from a flint; a suitable block with one end flat being taken, well directed blows on this end will strike off long flakes. When a flint is broken by a blow one piece generally shows a projection in the form of a cone, with an apex at the point where the blow is struck, and an incomplete cone is frequently found on flakes which have been struck from a flint, this rounded swelling or bulb of percussion being seen on the smooth surface which was separated from the block near one end of the flake, which is often the flat end chosen to receive the blow. The remains of the flat surface and the presence of the bulb of percussion are proofs that the flake has been chipped off intentionally, that is to say, by the hand of man. After much practice a man could strike off flakes from all round a block of flint, until he left only a small centre piece or core such as are seen in cases I., VI. and VII.,and suitable flakes could then be further improved for use as scrapers, knives, arrowheads, and so on by secondary working, which was done by further chipping with a hammer or a small punch or by pressure with what is called a fabricator, made of bone or deer's antler. By laying the flake on a pad of leather in one hand chips can be taken off it with surprising regularity along the edges by pressure with this fabricator, and with practice a man is able to obtain almost any form that is desired. The commonest of stone implements of the Neolithic Age are axeheads, and these were often ground, either at the cutting edge only or over the whole surface by rubbing on a hard stone; many primitive races in the South Sea Islands and other parts of the world use or were using till very recently stone axes, like those of the European Neolithic Age. The adze-head (to be fixed across the haft instead of in line with it) has generally one face of the cutting edge bevelled.

A chisel is generally narrower than an axe head, a gouge resembles an adze head, with one face more or less hollowed out.

The name " Celt " (from the Latin *Celtis*, a chisel) is often given to the above-mentioned implements, it must not be confounded with the word Kelt applied to people of the Central European race which is often spelt Celt.

Scrapers of flint are very common, so must have been in general use, probably for skinning animals and scraping the skins. Hollow scrapers, something like the moon before it is full, were perhaps used for forming the shafts of arrows and spears or for scraping flesh off bones.

Knives of flint were fixed in handles of wood or bone. Awls or piercers were made of stone, and also of bone or horn, and would serve for boring holes in wood, skin, bone or shell, and for carving patterns.

Spears would naturally be among the first weapons invented, it being only necessary to fix a flint knife or pointed flake in the end of a stick, but some of the spear heads of the stone age were very long and carefully shaped.

Bows and arrows were doubtless a much later invention than the spear, but the tipping of an arrow with a sharp stone would come as naturally as the spear head. Stone arrow heads have been found all over Europe, and were made and used long after other weapons were made of bronze, as an arrow is so liable to be lost.

Many arrow heads are made with great skill and care, and they have been divided into five classes :—

(1.) The leaf or lozenge shaped.

(2.) The elongated, with stem.

(3.) The triangular.

(4.) The triangular with barbs produced by a notch in the base.

(5.) The triangular with stem and barbs.

The Hafts of Stone implements have naturally nearly all decayed, but a few have been found, and there are two in this collection, the haft in each case having a hole made through it in which the axe head was inserted; snips of skin, sinews, or strong fibre were sometimes bound round to add strength. Some primitive tribes at the present time bind their stone axe heads to the hafts, and others double a flexible strip of wood round the stone, and for this a groove is usually cut in the stone.

Some axes and hammer heads were pierced to receive the handle, as may be seen in the wall case by the door. In some countries a gum or cement has been used to fasten the heads of spears and arrows.

In case I. there is also a flint knife with its original handle of moss which was found in the river Bann. The moss was probably tied on by strong pieces of the stem of a creeper or of grass. The scrapers in this case were evidently formed for the purpose of cleaning the hides of animals.

In the other side of this case are more carefully trimmed flakes and knives, and beyond these some very carefully worked large flat pieces and well formed small knife blades. There are also specimens of the scrapers or saws with one edge concave that seem to have been used for scraping bones or for cutting them as mentioned above. These implements are peculiar to Ireland.

Case No. II. contains arrow and javelin heads, some of them of considerable size and very skilful manufacture. This is especially the case with the larger arrow heads, made with a tang and two barbs, which are near the centre on the further side of the case.

Case No. III. contains a collection of axes or picks in a series, to show how the form was gradually evolved from a very rude commencement and by skill and practice brought to a high state of perfection. To the left in this case are shown first a number of flints roughly chipped to long pointed shapes, which, if tied in handles could be used for hoeing up the ground, or perhaps as battle axes and for killing large animals. Towards the centre of the case are some in which more care has been used to flatten the tool, so that it will be more serviceable as a hoe or for cutting a branch. After these, come some which are very fairly fashioned into the shape of axe heads, with at one end a cutting edge, and at the other end a point.

On the other side of the case are some of similar form, but with the cutting edge ground by rubbing on a hard stone to sharpen it, and lastly there are a number of axe heads, large and small, which have been polished all over by rubbing with some hard stone. There is also in this case one axe head in its original wooden handle which was found eight feet below the surface of a bog at Maguire's Bridge, County Fermanagh.

The case by the window, No. IX. contains another very large axe or pick head which was found in Coal Bog, Boho, County Fermanagh, and an original handle which is now lying beside it. This was soaked with bog water, and when dried it shrivelled to the shape which it now has, but the handle in which the axe head is placed shows what this original handle was like before it shrivelled up.

This case also contains a number of whet stones for sharpening tools, stone beads and spindle whorls.

Case No. IV. also contains axes and chisels of various forms. These stone axes and chisels are frequently called celts as already mentioned. Case No. X. contains stone hammer heads of different forms, some intended to tie into a haft with a withy and others perforated to receive the handle; the similar implements, more carefully finished, are believed to be battle axes and some of these have been worked in ornamental fashion with great skill and labour.

Case No. V. contains a great variety of implements found in various parts of Ireland, and the wall cases marked XI., XII., XIII., also show the stone axes and chisels found in different counties. It will be seen from these that in a great many parts of this country careful search may be rewarded by the discovery of relics of the Stone Age, though generally they are more numerous on the North coast, where the best materials for making stone implements are found. A considerable number, however, have been found in fords in the Shannon, as will be seen by those collected in Case XIII.

Case No. VIII. contains a variety of objects from different places, many only partly made.

The dwellings of Neolithic men in Ireland have disappeared without leaving any traces, but we may suppose that he built huts or tents by covering boughs of trees with sods, straw, turf or the skins of animals. He also often lived in caves and rock shelters in parts of the country where these are found. Pit dwellings or circular holes in the ground, which are sometimes spoken of as hut circles, existed in some places, and seem to have originally been roofed by laying a number of poles from the centre to the edge and covering these with turf or other materials. The trunk of a tree was probably used in the centre to support that end of the poles.

In some countries, especially in Switzerland, the men of these times constructed their dwellings on piles driven into the bed of a lake or river, evidently in order to secure themselves against attacks of enemies, but though the lake dwellings or crannogs of this country were similar in principle they seem generally to have been made in later times.

In some parts of Great Britain and on the Continent subterranean chambers are found which are called souterrains or dene holes, in England these consist of a vertical shaft leading to a central underground chamber, from which passages or other chambers branch off, but it is uncertain whether these were dwelling places, store-houses, or only mines for getting flint.

Men of this early period sometimes handled and moved very large blocks of stone. The best known stone structures of the Neolithic age are dolmens or cromlechs, circles, alignments and menhirs. The dolmen was perhaps always originally the stone burial chamber under a mound or long barrow ; examples are to be seen in Ireland at Kermanstown near Carlow ; Monasterboice, Legananny, County Down ; Ballymascanlan, near Dundalk, and many other places.

The stone chamber in its simplest form is made by placing three large stones on end and another large flat cap stone on the top and in some instances these cap stones weigh as much as thirty or forty tons.

A cist is a box-like tomb similar to a dolmen, but smaller, and a good example of a cist of later times is to be seen in No. III., the Bronze Age Room, in the case against the wall, which contains a burial from Greenhills near Tallaght.

Stone circles seem to have been either placed around burial mounds or erected for some religious purpose.

Alignments are single or double rows or avenues of upright stones, and are often associated with stone circles.

Menhirs or standing stones are found either alone or associated with other stone monuments. Examples are to be seen in this country at Tara, Ballyshannon, Muff, near Londonderry, Kesh, between Enniskillen and Bundoran, Newgrange, Rathcrogan, near Carrick-on-Shannon, and elsewhere.

The dead were usually buried, and in the centre of the room there is a pyramidal case in which are skulls and parts of skeletons found in a cist or stone chamber of a tumulus in the Phœnix Park. There were the remains of two men, and with them were a quantity of small shells, which seem to have formed a necklace, a worked thick flake which was probably a knife, and a bone ornament.

This represents an ordinary burial of the Stone Age, when it was the usual custom to lay the dead in a chamber made of large stones and to heap a mound of earth over it forming a barrow. The two small earthenware vessels which were found in this mound contain bodies which had been cremated, and belong to later periods, probably the early Bronze Age.

Underneath it is a case containing a skeleton found 10 feet below the surface of a peat bog near Castleblakeney, County Galway. On it were the remains of a short sleeveless tunic of deerskin, with finely stitched seams, laced in front; on the feet were shoes of raw hide.

Sometimes the bodies of the dead were burned before burial. Few objects are found buried with the remains, and they are generally flint implements and rough pottery.

From an inspection of implements such as are shown in this room, and of others which have been found in Great Britain and on the Continent, and an examination of numerous burial places, we are able to form a fairly accurate idea of the stage of civilisation to which man had attained in the Neolithic period. He cultivated the soil, and had cattle, horses, and other domestic animals, he had acquired the arts of spinning and of weaving, as well as that of making rough pottery, bows and arrows were in common use, and the stone axes and other tools were usually shafted and made in great variety of form and size ; often they were ground and polished.

In those days there were in Ireland many wild animals which have since disappeared—wolves, wild boars, wild cats—which survived till comparatively recent times, and also bears, the great deer known as the Irish Elk and probably reindeer.

The dead were buried in stone chambers, over which sepulchral mounds were raised. The length of these mounds is much greater than their breadth, and they are therefore known as "Long barrows," in contradistinction to the "Round barrows" of later times.

Some of the larger barrows contain more than one stone chamber, often connected with a common passage. When there is no stone chamber the body is buried in the mound.

It is somewhat surprising that though the Neolithic men were in many ways more advanced in civilisation than their predecessors of the Palæolithic race, they were very inferior in artistic skill, at all events to the Palæolithic cave dwellers of France. They ornamented their pottery with lines and dots arranged in zigzags and other set patterns, but seem to have lost the art of making life-like drawings of animals or representing them by clever carvings.

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